

ABSTRACT OF THE DISCLOSURE

The invention relates to the design of laser collimators for free space through-the-air optical links.

- 5 The laser collimator provides means for expanding the diameter of a light beam emitted from the end of a monomode optical fiber that has been optical coupled to a semiconductor laser diode and projecting through free space the expanded beam as a low divergence beam of substantially parallel rays. The laser collimators disclosed are compact, simple to make, and overcome many of the deleterious effects that result from the requirement that the air-glass surface terminating the
- 10 end of the monomode fiber coupled to the semiconductor laser is not normal to the axis of the optical fiber. Means are also disclosed for increasing the divergence of the cone of light emitted from the tip of an optical fiber thereby enabling the construction of laser collimators with larger expansion ratios in a compact size.